

PATENT COOPERATION TREATY

RECEIVED

20-10-2002

PCT FENSTER & Co.

From the INTERNATIONAL SEARCHING AUTHORITY

To:

FENSTER & COMPANY PATENT
ATTORNEYS, LTD
Attn. Fenster, Paul.
P.O.Box 10256
Petach Tikva 49002
ISRAEL

NOTIFICATION OF TRANSMITTAL OF
THE INTERNATIONAL SEARCH REPORT
OR THE DECLARATION

(PCT Rule 44.1)

Date of mailing
(day/month/year)

10/10/2002

Applicant's or agent's file reference

055/02522

FOR FURTHER ACTION

See paragraphs 1 and 4 below

International application No.

PCT/IL 01/01207

International filing date
(day/month/year)

27/12/2001

Applicant

DRYKOR LTD.

1. ☒ The applicant is hereby notified that the International Search Report has been established and is transmitted herewith.

Filing of amendments and statement under Article 19:

The applicant is entitled, if he so wishes, to amend the claims of the International Application (see Rule 46):

When? The time limit for filing such amendments is normally 2 months from the date of transmittal of the International Search Report; however, for more details, see the notes on the accompanying sheet.

Where? Directly to the International Bureau of WIPO
34, chemin des Colombettes
1211 Geneva 20, Switzerland
Facsimile No.: (41-22) 740.14.35

For more detailed instructions, see the notes on the accompanying sheet.

2. ☐ The applicant is hereby notified that no International Search Report will be established and that the declaration under Article 17(2)(a) to that effect is transmitted herewith.

3. ☐ With regard to the protest against payment of (an) additional fee(s) under Rule 40.2, the applicant is notified that:

☐ the protest together with the decision thereon has been transmitted to the International Bureau together with the applicant's request to forward the texts of both the protest and the decision thereon to the designated Offices.

☐ no decision has been made yet on the protest; the applicant will be notified as soon as a decision is made.

4. **Further action(s):** The applicant is reminded of the following:

Shortly after 18 months from the priority date, the international application will be published by the International Bureau. If the applicant wishes to avoid or postpone publication, a notice of withdrawal of the international application, or of the priority claim, must reach the International Bureau as provided in Rules 90bis.1 and 90bis.3, respectively, before the completion of the technical preparations for international publication.

Within 19 months from the priority date, a demand for international preliminary examination must be filed if the applicant wishes to postpone the entry into the national phase until 30 months from the priority date (in some Offices even later).

Within 20 months from the priority date, the applicant must perform the prescribed acts for entry into the national phase before all designated Offices which have not been elected in the demand or in a later election within 19 months from the priority date or could not be elected because they are not bound by Chapter II.

Name and mailing address of the International Searching Authority



European Patent Office, P.B. 5818 Patentlaan 2
NL-2280 HV Rijswijk
Tel. (+31-70) 340-2040, Tx. 31 651 epo nl,
Fax: (+31-70) 340-3016

Authorized officer

Yannick Gouby

PATENT COOPERATION TREATY

PCT

INTERNATIONAL SEARCH REPORT

(PCT Article 18 and Rules 43 and 44)

Applicant's or agent's file reference 055/02522	FOR FURTHER ACTION see Notification of Transmittal of International Search Report (Form PCT/ISA/220) as well as, where applicable, item 5 below.	
International application No. PCT/IL 01/ 01207	International filing date (day/month/year) 27/12/2001	(Earliest) Priority Date (day/month/year)
Applicant DRYKOR LTD.		

This International Search Report has been prepared by this International Searching Authority and is transmitted to the applicant according to Article 18. A copy is being transmitted to the International Bureau.

This International Search Report consists of a total of 8 sheets.

☐ It is also accompanied by a copy of each prior art document cited in this report.

1. Basis of the report

a. With regard to the language, the international search was carried out on the basis of the international application in the language in which it was filed, unless otherwise indicated under this item.

☐ the international search was carried out on the basis of a translation of the international application furnished to this Authority (Rule 23.1(b)).

b. With regard to any nucleotide and/or amino acid sequence disclosed in the international application, the international search was carried out on the basis of the sequence listing:

☐ contained in the international application in written form.

☐ filed together with the international application in computer readable form.

☐ furnished subsequently to this Authority in written form.

☐ furnished subsequently to this Authority in computer readable form.

☐ the statement that the subsequently furnished written sequence listing does not go beyond the disclosure in the international application as filed has been furnished.

☐ the statement that the information recorded in computer readable form is identical to the written sequence listing has been furnished.

2. ☐ Certain claims were found unsearchable (See Box I).

3. ☒ Unity of invention is lacking (see Box II).

4. With regard to the title,

☒ the text is approved as submitted by the applicant.

☐ the text has been established by this Authority to read as follows:

5. With regard to the abstract,

☐ the text is approved as submitted by the applicant.

☒ the text has been established, according to Rule 38.2(b), by this Authority as it appears in Box III. The applicant may, within one month from the date of mailing of this international search report, submit comments to this Authority.

6. The figure of the drawings to be published with the abstract is Figure No.

☐ as suggested by the applicant.

☐ because the applicant failed to suggest a figure.

☒ because this figure better characterizes the invention.

1
☐ None of the figures.

INTERNATIONAL SEARCH REPORT

International application No.
PCT/IL 01/01207

Box I Observations where certain claims were found unsearchable (Continuation of Item 1 of first sheet)

This International Search Report has not been established in respect of certain claims under Article 17(2)(a) for the following reasons:

1. ☐ Claims Nos.:
because they relate to subject matter not required to be searched by this Authority, namely:
2. ☐ Claims Nos.:
because they relate to parts of the International Application that do not comply with the prescribed requirements to such an extent that no meaningful International Search can be carried out, specifically:
3. ☐ Claims Nos.:
because they are dependent claims and are not drafted in accordance with the second and third sentences of Rule 6.4(a).

Box II Observations where unity of invention is lacking (Continuation of Item 2 of first sheet)

This International Searching Authority found multiple inventions in this international application, as follows:

see additional sheet

1. ☐ As all required additional search fees were timely paid by the applicant, this International Search Report covers all searchable claims.
2. ☐ As all searchable claims could be searched without effort justifying an additional fee, this Authority did not invite payment of any additional fee.
3. ☐ As only some of the required additional search fees were timely paid by the applicant, this International Search Report covers only those claims for which fees were paid, specifically claims Nos.:
4. ☒ No required additional search fees were timely paid by the applicant. Consequently, this International Search Report is restricted to the invention first mentioned in the claims; it is covered by claims Nos.:

1-10

Remark on Protest

- ☐ The additional search fees were accompanied by the applicant's protest.
- ☐ No protest accompanied the payment of additional search fees.

FURTHER INFORMATION CONTINUED FROM PCT/ISA/ 210

This International Searching Authority found multiple (groups of) inventions in this international application, as follows:

1. Claims: 1-10

An air conditioning system for conditioning air by removing heat and moisture from the air and transferring it to the environment, comprising:

- a dehumidifier that produces dehumidified air and utilizes a liquid desiccant for drying;
- at least one non-desiccant fluid at a temperature lower than the temperature of the liquid desiccant;
- and at least one heat exchanger in which the liquid desiccant is cooled by the at least one fluid.

2. Claims: 11-24

An air conditioning system for conditioning air by removing heat and moisture from the air and transferring it to the environment, comprising:

- a dehumidifier which produces dehumidified air;
- at least one cooling chamber through which air flows and which contains water which evaporates into said air;
- and at least one heat exchanger in which at least some of the dehumidified air is cooled by one or both of air exiting at least one of the at least one cooling chambers or water cooled in at least one of the at least one cooling chambers.

3. Claims: 25-69

A dehumidifier for removing moisture from air to be dried and transferring it to environmental air, comprising:

- liquid desiccant;
- a dehumidification section where the liquid desiccant removes moisture from the air to be dried;
- a dehumidifying (or regenerating) section;
- a dehumidifying (or regenerating) section reservoir containing at least some of the liquid desiccant;
- and at least one dehumidifying (or regenerating) element; wherein each dehumidifying (or regenerating) element moves from the dehumidifying (or regenerating) section reservoir to the dehumidifying (or regenerating) section, carrying some of the desiccant from the dehumidifying (or regenerating) reservoir with it, which desiccant absorbs moisture from the air to be dried in the dehumidifying section (or gives up moisture to the environmental air in the regenerating section), and the said dehumidifying (or regenerating) element then moves back to the dehumidifying (or regenerating) section reservoir, carrying the desiccant back to the dehumidifying (or regenerating) section reservoir.

FURTHER INFORMATION CONTINUED FROM PCT/ISA/ 210

INTERNATIONAL SEARCH REPORT

International application No.

PCT/IL 01/01207

Box III TEXT OF THE ABSTRACT (Continuation of Item 5 of the first sheet)

An air-conditioning system for conditioning air by removing heat and moisture from the air and transferring it to the environment, comprising: a dehumidifier (14) that produces dehumidified air and utilizes a liquid desiccant for drying; at least one non-desiccant fluid at a temperature lower than the temperature of the liquid desiccant; and at least one heat exchanger (20) in which the liquid desiccant is cooled by the at least one fluid.

INTERNATIONAL SEARCH REPORT

International Application No

PCT/IL 01/01207

A. CLASSIFICATION OF SUBJECT MATTER

IPC 7 F24F3/14

According to International Patent Classification (IPC) or to both national classification and IPC

B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)

IPC 7 F24F

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the international search (name of data base and, where practical, search terms used)

EPO-Internal, WPI Data, PAJ

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	WO 00 55546 A (FORKOSH MORDECHAI ;FORKOSH DAN (IL); DRYKOR LTD (IL); FORKOSH TOMY) 21 September 2000 (2000-09-21)	1
A	abstract page 9, line 30 - line 34 figure 2	2-9
X	US 2 057 938 A (R.B.P. CRAWFORD) 20 October 1936 (1936-10-20)	1-9
A	page 5, right-hand column, line 47 -page 7, right-hand column, line 63 figure 2	10
X	US 2 336 674 A (BRACE CRAWFORD ROBERT) 14 December 1943 (1943-12-14)	1,2,4,6, 8-10
	page 2, right-hand column, line 69 -page 3, left-hand column, line 24 figures 1,2	
	--- -/-	

☒ Further documents are listed in the continuation of box C.

☒ Patent family members are listed in annex.

* Special categories of cited documents :

"A" document defining the general state of the art which is not considered to be of particular relevance

"E" earlier document but published on or after the international filing date

"L" document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified)

"O" document referring to an oral disclosure, use, exhibition or other means

"P" document published prior to the international filing date but later than the priority date claimed

"T" later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention

"X" document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone

"Y" document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art.

"&" document member of the same patent family

Date of the actual completion of the international search

17 May 2002

Date of mailing of the international search report

10.10.2002

Name and mailing address of the ISA

European Patent Office, P.B. 5818 Patentlaan 2
NL - 2280 HV Rijswijk
Tel. (+31-70) 340-2040, Tlx. 31 651 epo nl,
Fax: (+31-70) 340-3016

Authorized officer

De Graaf, J

INTERNATIONAL SEARCH REPORT

International Application No

PCT/IL 01/01207

C.(Continuation) DOCUMENTS CONSIDERED TO BE RELEVANT

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	US 2 214 880 A (CRAWFORD ROBERT B P) 17 September 1940 (1940-09-17) page 3, left-hand column, line 51 -page 4, left-hand column, line 18 figure 2	1-5,7-9
X	--- US 3 350 892 A (KELLEY GILBERT A) 7 November 1967 (1967-11-07) abstract figure 1	1,2,4,5, 7-10
X	--- PATENT ABSTRACTS OF JAPAN vol. 1999, no. 10, 31 August 1999 (1999-08-31) -& JP 11 132505 A (DAIKIN IND LTD), 21 May 1999 (1999-05-21) abstract figures 8,9	1,2,4,5, 7-9
X	--- US 2 290 465 A (CRAWFORD ROBERT B P) 21 July 1942 (1942-07-21) page 1, right-hand column, line 55 -page 2, right-hand column, line 62 figure 1	1,2,4,5, 7-10
X	--- US 2 017 027 A (FORREST HENRY O) 8 October 1935 (1935-10-08) page 2, right-hand column, line 12 - line 30 figure 1	1,2,4,5, 7-10
X	--- US 5 191 771 A (MECKLER MILTON) 9 March 1993 (1993-03-09) abstract figures 2,4,6	1,2
X	--- US 4 691 530 A (MECKLER MILTON) 8 September 1987 (1987-09-08) abstract figure 4	1,2
X	--- US 3 266 784 A (AKIRA SAITO) 16 August 1966 (1966-08-16) column 3, line 3 - line 7 figure 1	1
A	--- US 5 070 703 A (WILKINSON WILLIAM H) 10 December 1991 (1991-12-10)	
A	--- US 2 162 158 A (CLARK COEY STEWART) 13 June 1939 (1939-06-13) -----	

INTERNATIONAL SEARCH REPORT

Information on patent family members

International Application No

PCT/IL 01/01207

Patent document cited in search report	Publication date	Patent family member(s)	Publication date
WO 0055546	A	21-09-2000	
		AU 2686500 A	04-10-2000
		BR 0008997 A	08-01-2002
		CN 1343292 T	03-04-2002
		EP 1169603 A1	09-01-2002
		WO 0055546 A1	21-09-2000
		TW 457360 B	01-10-2001
		ZA 200001300 A	11-01-2001
US 2057938	A	NONE	
US 2336674	A	14-12-1943	NONE
US 2214880	A	17-09-1940	NONE
US 3350892	A	07-11-1967	NONE
JP 11132505	A	21-05-1999	NONE
US 2290465	A	21-07-1942	NONE
US 2017027	A	08-10-1935	NONE
US 5191771	A	09-03-1993	
		WO 9718423 A1	22-05-1997
		US 5297398 A	29-03-1994
		US 5471852 A	05-12-1995
		AU 2948495 A	22-01-1997
		AU 4162196 A	05-06-1997
		WO 9701066 A1	09-01-1997
		US 5426953 A	27-06-1995
US 4691530	A	08-09-1987	NONE
US 3266784	A	16-08-1966	NONE
US 5070703	A	10-12-1991	US 5058394 A 22-10-1991
US 2162158	A	13-06-1939	NONE